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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,109	01/16/2001	Freddie Lin	2008.002	3648

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EXAMINER	
LAM, DANIEL K	

ART UNIT	PAPER NUMBER
2667	7

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/761,109	LIN ET AL.	
	Examiner	Art Unit	
	Daniel K Lam	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-24,26 and 27* is/are rejected.

7)☒ Claim(s) *13 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention, namely, "Time Coupled Packet Transmission", is not descriptive. It does not describe the current invention that is directed to timeslot allocation in access device as indicated in the abstract and summary of the invention. It should be included in the title.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 16, and 28** are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Pat. No. 6,373,860 issued to O'Toole et al (hereinafter O'Toole).

Regarding **claims 1, 16, and 28**, O'Toole discloses a dynamically-assigned voice and data channels in a digital-subscriber line access device and a method of controlling access to a network, comprising:

- A next format register 32 contains new format of time-slot bits (A timeslot allocation table including timeslot allocation information; claim 1. Storing the timeslot allocation information in a timeslot allocation table; claim 2). See fig. 9, and col. 7, lines 27-46.

- A CPE modem 30 comprising the next format register 32 and a formatter 36 (A transmitter coupled to the timeslot allocation table; claim 1. Means for allocating a portion of a bandwidth for timeslot allocation information; claim 28). Furthermore, the CPE modem 30 reserves a portion of transmitted data TDM bandwidth (as in claims 2 and 28) and transmits the content of the next format register 32 via the formatter 36 to a far-end co modem 40 (The transmitter transmits data and updated timeslot allocation information in accordance with the timeslot allocation information; claims 1 and 28). Also see fig. 9 and col. 7, lines 27-46.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 2-12, 14, 15, 17-24, 26, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,373,860 issued to O'Toole et al (hereinafter O'Toole) in view of U. S. Pat. No. 5,313,467 issued to Varghese et al (hereinafter Varghese).

Regarding **claim 2**, in addition to disclose the limitations in claims 1 discussed earlier, O'Toole further discloses the input channels comprise voice and data channels (at least one input channel) and the access device allocates timeslots to the input channels

according to the timeslot allocation information. See figures 8 and 9, and col. 6, lines 66-67.

However, he does not disclose the access device allocates timeslot lengths. Varghese discloses a mean for dynamically changing the allocation of the bandwidth of the signal, where the bandwidth of each individual signal, D1, D2, or D3 is allocatable among contiguous or noncontiguous portions of the frame. See fig. 4, and col. 3, lines 1-5. Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to develop the access device such that it can allocate timeslot lengths for the input channels according to the timeslot allocation information for a key reason. By having the ability to allocate timeslot lengths to input channels, the system can accommodate different bandwidth and latency requirements of the input channels as taught by Varghese. See col. 3, lines 9-17.

Regarding **claims 3 and 18**, in addition to disclose the limitations in claims 2 and 16 discussed earlier, O'Toole further discloses the updated timeslot allocation information is stored in the next format register 32 (The timeslot allocation table receives updated timeslot allocation information; claims 3 and 18). This information is, then, pass to the current format 34 to adjust the timeslot allocation (the transmitter reallocates timeslot lengths (as in claim 3) or timeslot (as in claim 18) according to the updated timeslot allocation information). See fig. 9, and col. 7, lines 38-40.

Regarding **claims 5 and 7,** in addition to disclose the limitations in claims 1 and 16 discussed earlier, O'Toole further discloses the CPE modem 30 formats data and local voice lines into frame timeslots based on the timeslot bits. The formatter 36 multiplexes

them together and transmits them to the far end modem (The time division multiplexer time division multiplexes data from the at least one input channel into timeslots according to the timeslot allocation information; claim 5. Time division multiplexing the timeslot allocation information with the transmitted data; claim 17). See fig. 10, and col. 7, lines 50-53.

Regarding **claim 6,** in addition to disclose the limitations in claim 5 discussed earlier, O'Toole further discloses that each bit in the frame format timeslot allocation table is allocated to a timeslot. Each timeslot has 64K bit rate that is derived from the super-frame clock, SF_CLK (the timeslot allocation information includes the number of clock cycles allocated to each of the at least one input channel). See figures 10, 11A, 11B and 11C, and col. 8, lines 50-52. Furthermore, A one in a bit in the frame format timeslot allocation table indicates a channelized ds0 for voice. A zero indicates the channelized ds0 is removed so that it can be used for data (the channel characteristics associated to each of the at least one input channel). See figure 13, and col. 9, lines 54-67

Regarding **claim 8,** in addition to disclose the limitations in claim 1 discussed earlier, O'Toole further discloses the timeslot allocation information contained in the next format register 32 is transmitted over the dsl link to the receiving co modem 40. A receiving formatter 45 extracts the timeslot allocation information (a second timeslot allocation table including second timeslot allocation information; and a receiver coupled to the second timeslot allocation table and coupled to the transmitter). See fig. 9, and col. 7, lines 32-36.

Regarding **claims 9 and 23,** in addition to disclose the limitations in claims 1 and 16 discussed earlier, O'Toole further discloses a next formatter 42 receives the updated timeslot information and controls the current format register 44 (A controller coupled to the timeslot allocation table, wherein the controller receives updated timeslot allocation information and updates the timeslot allocation table with the updated timeslot allocation information; claim 9. Receiving received data including updated timeslot allocation information; claim 23). See fig. 9, and col. 7, lines 44-45.

Regarding **claims 4, 7, 10-12, 19, 20, and 24**, in addition to disclose the limitations in claims 1, 2, 9, 16, and 18 discussed earlier, O'Toole further discloses the CPE modem transmits via the formatter updated timeslot allocation information in the frame format field (transmitter transmits updated timeslot allocation information in a reserved slot along with the transmitted data; claim 7). The frame format field provides one bit for each possible ds0 input slot (timeslot allocation information for each of the at least one input channel; claim 4). A one in a bit in the frame format field indicates a channelized ds0 for voice (Includes updated information regarding the addition of channels; claim 10. Includes characteristics of at least one channel; claims 12 and 24. Includes updated information regarding the addition of a second channel; claim 19). A zero in a bit in the frame format field indicates the channelized ds0 is removed so that it can be used for data (Includes updated information regarding the removal of channels; claim 11. Includes information regarding the subtraction of a second channel; claim 20). See figure 13, and col. 9, lines 54-67.

Regarding **claims 14 and 26**, in addition to disclose the limitations in claims 12 and 24 discussed earlier, O'Toole further discloses when the timeslots are allocated for data service, it forms an unchannelized pipe (Include inter-channel relationship information used to combine multiple non-adjacent timeslots into one virtual timeslot; claims 14 and 26). See col. 9, lines 57-58.

Regarding **claims 15 and 27**, in addition to disclose the limitations in claims 1 and 16 discussed earlier, O'Toole further discloses the allocation frame format is only acted upon when the CRC is good (Transmits time division multiplexed data and packetized data simultaneously without disrupting the flow of the corresponding data; claims 15 and 27). See col. 9, lines 64-67.

Regarding **claims 21 and 22,** in addition to disclose the limitations in claim 18 discussed earlier, Varghese further discloses a means for dynamically changing the allocation of the bandwidth of the signal, where the bandwidth of each individual signal, D1, D2, or D3 is allocatable among contiguous or noncontiguous portions of the frame (Includes updated information regarding increasing the length of a timeslot; claim 21. Includes updated information regarding decreasing the length of a timeslot). See fig. 4, and col. 3, lines 1-5.

Allowable Subject Matter

6. **Claims 13 and 25** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKL: dkl
June 24, 2004

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 6/28/07